

## CLAIMS:

- 09226618-4230400
1. A simulation method for simulating a system having a plurality of circuit modules using software, comprising the steps of:
    - using an object oriented language;
    - preparing a plurality of circuit base classes, which describe base circuit modules as classes, as a library;
    - describing the circuit modules to be simulated as classes by inheriting the circuit base classes prepared as the library; and
    - describing the system to be simulated by combining the circuit modules described as the classes.
  - 10 2. A simulation method according to claim 1, further comprising the step of describing the system as a class by inheriting the circuit base classes prepared in the library.
  3. A simulation method according to claim 1, further comprising the step of preparing a component class having the properties of a circuit which contains a circuit operating asynchronously with a clock signal, and a synchronous module class, having the properties of a circuit operating synchronously with the clock signal in the library, which is derived from .
  4. A simulation method according to claim 3, further comprising the

step of preparing a bus class having the properties of a bus, a bus master class having the properties of a bus master, and a bus slave class having the properties of a bus slave, as the circuit base class described as a class derived from the synchronous module class, in the library.

5. A simulation method according to claim 4, further comprising the step of preparing a bus master interface class, whose base classes are the synchronous module class, and which has the properties of a bus master interface, and a bus slave interface class having the properties of a bus slave interface, as the circuit base class in the library.

6. A simulation method according to claim 3, further comprising the step of preparing a central processing unit class, whose base class is the synchronous module class, and which has the properties of a central processing unit, as the circuit base class in the library.

7. A simulation method according to claim 3, further comprising the step of preparing a hierarchy class, whose base class is the synchronous module class, and which has the properties of a hierarchy of a circuit containing the bus, as the circuit base class in the library.

8. A simulation method according to claim 4, further comprising the step of preparing a memory class, whose base class is the bus slave class,

2010 RELEASE UNDER E.O. 14176

and which has the properties of a memory, as the circuit base class in the library.

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9. A simulation apparatus, using a computer, for executing the method according to any one of claims 1 to 8.

10. A computer-readable storage medium for storing a computer program for executing the simulation method according to any one of claims 1 to 8.